
UTAH DEPARTMENT OF TRANSPORTATION

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SCRUB SEAL COAT

A heavy application of polymer modified rejuvenating agent is sprayed on the asphalt pavement and forced into all cracks and voids by a drag broom. An application of sand follows which is broomed into the emulsion. The treatment is then rolled with pneumatic tired rollers and swept after 1-2 hours. All cracks are effectively sealed, and the roadway surface benefits from the rejuvenating agents contained in the emulsion. The pavement is also provided with a skid resistant surface.



PROPER APPLICATION

Rural secondary, city, and county routes exhibiting severely cracked, alligatored, raveled, weathered, and oxidized surfaces are good candidates for this treatment. Standard chip seal applications do not effectively rejuvenate the pavement surface. Do not use scrub seals on rutted pavements. This process is particularly advantageous in filling and sealing badly cracked and distressed pavements and at the same time rejuvenating the surface and restoring skid resistance. A scrub seal coat can buy a few more years of service until monies can be found to properly overlay these routes.

SPECIFICATIONS/DETAILS

A special provision for this process is currently not available but is in the process of development.

Basic equipment required: Traffic control tabs, sweeper, asphalt distributor, special emulsion broom, self-propelled aggregate spreader, aggregate broom, and a sweep broom. Scrub seal coats are applied when the ambient temperatures range from 40 to 120 F. Ideally, the weather forecast should be for sun and highs near 60 F.

A "Type D", polymer modified asphalt rejuvenating agent is specified under UDOT Standard Specification 02745. Application rates vary according to the condition of the pavement surface (number and size of cracks, voids, and coarseness of the surface, and to the size of the cover aggregate to be used). Spray rates from 0.22 to 0.28 gsy for fine aggregates (sand), 0.25 to 0.35 gsy for medium aggregates (minus 1/4"), and 0.35 to 0.45 gsy for large aggregates (chips) are recommended. The sprayed emulsion is immediately "scrubbed" into the pavement surface with a drag broom. Shot rates greater than 0.38 gsy require no drag brooming.

A cover material (a variety of aggregates including sand, volcanic cinders, slag, and chips can be used) is placed immediately and "scrubbed" into the emulsion with a lightweight aggregate broom. No broom is

required with ¼” or larger aggregate. Pneumatic tired rollers are immediately used to orient and seat the cover aggregate. Traffic control requirements are similar to standard chip seal applications. Curing times vary depending on ambient conditions. Generally the excess cover material is swept off after approximately 1-2 hours. Upon proper curing, no aggregate tracking issues should develop.

COST INFORMATION

Typical costs for Scrub Seals are approximately the same as a conventional polymer modified chip seal coat (\$0.90 to \$1.05 per square yard). The Life expectancy ranges from 4-10 years. The effective sealing of cracks achieved during this process range from 3-7 years. Significant cost savings can be achieved compared to the use of hand-applied crack sealants followed by conventional chip seal coats.

RELATED APPLICATIONS

UDOT Section 02785, Chip-Seal Coat
Asphalt Institute Manual Series 19, Sand-Emulsion Seal
Asphalt Institute Manual Series 19, Cape Seal

FURTHER INFORMATION

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